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FACTORS ASSOCIATED WITH TTO UTILITY CHANGES AMONG OLDER PEOPLE AT VETERAN HOME

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OBJECTIVE: Time-trade-off (TTO) method is an important tool in health utility measurement but the contribution factors regarding its change especially on elder remains unclear. Purpose of this study was to explore the factors associated with TTO utility changes among old people. **METHODS:** A total of 288 male veterans aged above 65 years were longitudinally followed up one year for time-trade-off (TTO) utility. The data on WHOQOL-BREF (Taiwan version), socio-demographics, health status, health behaviors, home care, and health perception including rating scale (RS), self-rating health, and self-rating happiness were also collected. Wilcoxon rank sum test and Spearman correlation were used to select candidate of factor. Multiple regression analysis was performed to explore the contribution factors with the changes of TTO utility. **RESULTS:** The mean [SD] of TTO utility (0–1) for participants was 0.89 [0.25] at baseline and changed into 0.78 [0.34] after one year. Several factors at baseline were associated with the changes of TTO significantly ($p < 0.05$) and independently including: age group, education level, rank when retired from army, stroke, respiratory diseases, number of office visits to a doctor, RS, self-rating health, physical domain and 9 facets of WHOQOL-BREF. After considerations of the collinearity of the variables and the simplicity of the models, variables entered in the final multiple regression models were: education level, stroke, RS, and "dependence on medical substances and medical aids" facet of WHOQOL-BREF ($R^2 = 0.12$). **CONCLUSIONS:** Several variables were associated with TTO utility changes significantly and independently among old people at veteran home. Education level, stroke, RS, and [2]dependence on medical substances and medical aids[2] facet of WHOQOL-BREF were associated factors of TTO utility changes in the final regression model. Due to the large variation of TTO utility changes the percentage of the variance accounted by the variables was small.

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EXPLICIT INDICATORS TO MEASURE PREVENTABLE DRUG-RELATED MORBIDITY IN AN ELDERLY POPULATION

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OBJECTIVE: To develop consensus-approved explicit indicators of preventable drug-related morbidity (PDRM) and use these indicators as a quality measure in an elderly population. **METHODS:** The Delphi technique was used with a 7-member geriatric medicine expert panel to come to consensus on explicit indicators of PDRM in the elderly. The indicators were constructed using a pattern of care and an associated outcome. Measurement of PDRM involved application of the indicators to a large database. Patients eligible for the study were over 65 and had the MCO Medicare plan for at least 12 months during an 18-month window. The pattern of care and the associated outcome had to be present in temporal order to be considered a PDRM event. Risk factors and economic outcomes were measured as a part of the database analysis. **RESULTS:** The Delphi panel came to consensus on 49 indicators of PDRM. There were 11,711 patients eligible for the study in the MCO's database. Of those elderly patients who were eligible, 966 (8.2%) had at least one instance of PDRM. The most prevalent PDRM events centered around congestive heart failure, asthma, COPD, and GI bleeding. The presence of PDRM was significantly associated with the number of prescriptions, number of diagnoses, number of prescribers, and patients over 85. Patients with a PDRM event used significantly more health care resources and cost more to care for than those without an event ($16,821 versus $3423). **CONCLUSION:** This study is important in its development of explicit indicators for PDRM and linking the presence of the pattern of care with the corresponding adverse outcome. These indicators may be used to measure and monitor the performance of the medication use system and change the delivery system to improve patient outcomes. These changes may occur at the individual patient level or at a system level.

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JUDGMENT RULES IN OLDER ADULTS' EVALUATIONS OF DRUG BENEFIT PLANS

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OBJECTIVES: The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 will provide drug coverage to seniors through a variety of mechanisms, including stand-alone prescription drug plans. Although these stand-alone plans must provide a standard minimum benefit package, variation in cost-sharing and utilization controls is permitted, leading potentially to a wide variety of plans from which beneficiaries might choose. Thus, it is important for both policy makers and health insurance firms to better understand the processes seniors use to choose among drug insurance plans. The objectives of this study were to assess and compare the use of a compensatory judgment model with two configural (conjunctive and disjunctive) judgment models in older adults' evaluations of drug benefit plans with varying attributes. **METHODS:** Three focus groups conducted with a total of 19 members of a local senior advocacy group suggested that copayment, premium, deductible, formulary use, and mail-service use were relevant plan attributes. A separate group of 32 seniors judged the suitability of 48 drug benefit profiles based on these attributes using a 5-point Likert-type scale. Three regression models, approximating compensatory, conjunctive, and disjunctive judgments, were fit by least-squares to each participant's judgments using plan attributes as predictors. Reliability of predictions from each model was assessed by comparison of multiple correlations. **RESULTS:** Mean multiple correlations were strong and ranged from 0.782 for the compensatory model to 0.789 for both configural models and were statistically indistinguishable. Multiple correlations were marginally higher for conjunctive or disjunctive models for a majority (62.5%) of subjects. **CONCLUSIONS:** Results suggest that both compensatory and configural judgment models may provide plausible models of information integration in older adults' assessments of prescription drug plans. Future research could use more fine-grained techniques (e.g. process tracing) to better understand this process.

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PRESCRIPTION DRUG UTILIZATION PATTERNS AND CHARACTERISTICS FOR A MEDICARE POPULATION IN MANAGED CARE

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OBJECTIVE: To characterize patient demographics and drug utilization patterns for Medicare programs within a pharmacy benefits manager. **METHODS:** Pharmacy claims data from July 1 to September 30, 2003 for several health plans with a total of 255,000 Medicare members were extracted. These health plans are geographically diverse with different benefit designs in place.

Utilization characteristics from a managed commercial health plan with a 3-tier benefit design were used for comparison. Prescription utilization data statistics such as per member per month costs and utilization and types of drug used were calculated. The top five therapeutic classes ranked by drug cost per member per month were also identified and compared. **RESULTS:** Mail order penetration was 5.9% with Medicare and 3.6% for commercial businesses. Mean age of pharmacy utilizers was 73.1 and 50.6 years in Medicare and commercial business, respectively. Generic utilization was lower for mail order versus retail pharmacies (46.9% and 54.8% for Medicare and 34.8% and 46.2% for commercial business, respectively). Prescription volume was 30.8 and 9.4 per member per year in Medicare and commercial business, respectively. Mean ingredient cost was lower in Medicare plans ($43.79 versus $56.68 in commercial business), while mean copay was higher in Medicare plans ($27.92 versus $20.08 in commercial business). The top therapeutic classes, as ranked by ingredient cost per member per month, were similar for both Medicare and commercial businesses. For Medicare business, the top classes were antihyperlipidemics, antihypertensives, ulcer drugs, and antidiabetic agents. For commercial business the top classes were antihyperlipidemics, ulcer drugs, antidepressants, and antidiabetic agents. **CONCLUSIONS:** Prescription utilization patterns and drug mix for members in Medicare programs and commercial health plans differed, mainly driven by benefit design and coverage policy. Understanding of these differences are essential to effective Medicare pharmacy program design.

HEALTH POLICY

HEALTH POLICY—Consumer Advertising

PHP37

CONTENT ANALYSIS OF PRINT DIRECT TO CONSUMER DRUG ADVERTISEMENTS TO DETERMINE NUMBER AND SPECIFICITY OF RISK STATEMENTS

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OBJECTIVE: The objective of the current study is to determine number and the specificity of risk factors (side effects, specific side effects, contra indications, total number of sentences) disclosed in a typical direct-to-consumer print advertisement published in 2002. **METHODS:** Content analysis is a research technique for the systematic classification and description of communication content to certain usually predetermined categories. All product specific prescription drug advertisements appearing in seven consumer magazines from January 2002 to December 2002 were collected. The sampling of magazines was purposive. The magazines were selected based upon their circulation and appeal. All the four variables were defined explicitly. Side effects were defined as any unwarranted secondary and adverse effects of the drug. Specific side effects were defined as those side effects, which were stressed upon, and where more information was provided. Contraindications were defined as statements that contraindicate the use of the advertised drug in specific populations or situations. The total number of sentences was defined as the total number of sentences in the print advertisement that contained any of the side effects, specific side effects or contraindications. Judges were trained to determine the validity of operational guidelines. Cohen's Kappa was used to determine inter-rater agreement. Each brand name drug advertisement served as the unit of analysis. Descriptive statistics were the primary tool for analytical procedures. **RESULTS:** A total of 349 advertisements were identified which represented 40 distinct brand drugs. There was an average of 4.6 side effects per advertisement. Of these, 0.7 specific side effects were mentioned per advertisement. Each advertisement contained an average of 1.7 contraindications and 2.55 sentences. **CONCLUSION:** Advertisements contained only an average of 2.55 risk statements. The average number of side effects disclosed in a typical advertisement is less than five. More than half of the advertisements did not mention specific side effects.

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AN ASSESSMENT OF THE EFFECT OF DEMOGRAPHICAL AND SOCIOLOGICAL FACTORS ON INDIVIDUAL RESPONSE TO DIRECT-TO-CONSUMER ADVERTISING OF PRESCRIPTION DRUGS

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OBJECTIVES: The objective of this study was to investigate the factors influencing the relationship between Health Locus of Control (HLC) and consumer responsiveness to Direct-to-Consumer advertising (RDTCA) of generic and brand name prescription drugs. This study was intended to provide a framework to aid in the promotion of generic utilization by consumers and better targeting of consumers by DTC advertisements in a more cost-efficient manner, thereby reducing health care expenditure. **METHODS:** Direct-mail survey was employed for the purpose of this study, and questionnaires were sent to a simple random sample of 900 individuals taken from the entire population of the United States. The survey was designed according to Dillman's Total Design Method, and consisted of several validated scales, such as the Wallston multidimensional HLC scale, the Health Value scale by Lau et al, some items seeking to establish consumer RDTCA, and demographic items. **RESULTS:** A net response rate of 47.33% was obtained. Regression techniques and ANOVA were the primary statistical tests employed to address the research questions. The results established that RDTCA of brand name prescription drugs was significantly related to External HLC orientation, educational level, income, gender, race and presence of health insurance. The analysis also showed the existence of statistically significant relationships between RDTCA of generics and educational level, income, gender and presence of health insurance. The study suggests that RDTCA of prescription drugs decreases as the level of both education and household income increases, and that females are more likely to respond to DTC advertising. **CONCLUSIONS:** Consumer responsiveness to DTC advertising of prescription drugs can serve as the basis for well-directed DTC campaigns at target populations. The results provide several variables that can be used as the basis for market segmentation, which can be useful for DTC advertising of both brand name and generic prescription drugs.

HEALTH POLICY

HEALTH POLICY—Pharmaceutical Industry Issues

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STOCK MARKET VALUATION AND FIRM-LEVEL DETERMINANTS OF INNOVATIVE ACTIVITY IN THE PHARMACEUTICAL INDUSTRY

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OBJECTIVE: The objective of this research was to examine the relationship between financial valuation and both firm- and industry-specific measures of technological change for firms